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THE STOLAR PARTNERSHIP
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February 26, 1992

RECEIVED

FEB 27 1992

ROOM SECTION

HAND DELIVERED

Mr. Ruben McCullers
WSTM/RCRA, EPA Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Re: In the Matter of Knapheide Manufacturing Co., West
Quincy, Missouri, EPA Docket No. VII-92-H-0008

Dear Mr. McCullers:

We are legal counsel to Knapheide Mfg. Co. ("Knapheide") in the above-captioned proceeding. Knapheide received the Complaint, Compliance Order, and Notice of Opportunity for Hearing (the "Complaint") issued in that proceeding on February 7, 1992. Said Complaint directed Knapheide to provide the Environmental Protection Agency and the Missouri Department of Natural Resources with certain items within twenty days after receipt of the Complaint. Therefore, in accordance with the Complaint, Knapheide submits the following:

1. The results of all hazardous waste determinations conducted on all hazardous waste streams at the West Quincy site, together with other documents and a written detailed description of all process knowledge used to support the hazardous waste determination results, pursuant to Paragraph 57(a) of the Complaint. In addition, Knapheide has requested that Chief Supply, Inc., one of the transport and disposal companies which services Knapheide, forward to Knapheide all waste analyses performed by Chief for Knapheide. Any of the waste analyses received from Chief which are not included with the enclosed will be forwarded to your office upon receipt.



R00036138
RCRA Records Center

Mr. Ruben McCullers
February 26, 1992
Page 2

THE STOLAR PARTNERSHIP

2. Photographs documenting adequate aisle space in the liquid waste storage shed, pursuant to Paragraph 57(k) of the Complaint.

Knapheide, in an effort to cooperate fully with the EPA, submits the foregoing items as directed in the Compliance Order prior to the filing of an Answer in the captioned proceedings. Such compliance does not constitute an admission by Knapheide of any of the specific factual allegations or legal conclusions contained in the Complaint, and Knapheide reserves the right to assert any and all defenses it may have to said allegations and to dispute the appropriateness of any other element of the Complaint.

Very truly yours,


Sandra L. Oberkfell

SLO:slc

Enclosures

cc: Mr. Bruce Martin (w/encl.)
Robert W. Richards, Esq. (Hand Delivered w/encl.)
Mr. Harold Huggins (w/encl.)

Description of Process Knowledge
(Paragraph 57(a))

Re: In the Matter of Knapheide Manufacturing Co., West Quincy, Missouri,
EPA Docket No. VII-H-0008

As indicated in Compliance Order Paragraph 57(a), there are numerous process lines at the facility. The description of processes which generate or potentially generate hazardous waste is provided below. Several unique wastestreams may be generated along any process line. Wastestreams which are similar in appearance from the same process line or different process lines may have significant differences in waste characterization. For instance, absorbent materials (paint filter and overspray paper) in individual paint booths may generate characteristically different waste streams due to type of paint used within each booth, the duration of painting operation within each booth between changing of absorbent materials, the handling of used absorbent material, etc.

The following manufacturing finish processes generate waste absorbent material (paint filters and overspray paper) or listed hazardous waste. Absorbent material waste is currently handled as a single waste stream, although the characteristics of the waste varies between individual paint booths. Delineation of the separate wastestreams which may vary in waste characteristics due to the type of paint utilized in each booth or how the booth is operated, has not been completed at this time. Most of the available waste analyses can not be definitively associated with a particular paint booth or dip tank wastestream. Not all Process Materials indicated for each process are utilized at each Process Location as indicated below:

DIP PAINT TANK

Process Location:

Side Assembly - 3 tanks

Process Material:

Valspar #FAR0001

Valspar #AAR0158

Valspar #AAA0422

Barton #100

Barton Xylene

Process:

The dip paint tanks are 700 gallon steel recirculating tanks set in concrete pits. The load bar dips the parts into the tank for 15 seconds and pauses 30 seconds to allow paint to drain back into the paint bank and then over a 12' long drip board covered with absorbent material. For eight hours the parts are air-dried, during that time excess paint drips onto absorbent material (floor drip paper). Absorbent materials are placed in 55-gallon drums and eventually utilized as energy resource recovery off-site

CLEANING ACTIVITIES

Process Location:

Utility Body Assembly Line - 3 booths
Special Utility Body Assembly - 3 booths
Tool Box Assembly - 2 booths
Platform Assembly - 3 booths
Side Assembly - 3 tanks

Process Material:

Sikens MEK
Barton Xylene
Barton Bartothane
Barton #3367

Process:

Painting pumps, lines, hoses and guns are flushed or soaked in these materials to prevent paint build-up. Spent material is placed into 55-gallon drums temporarily stored in the drum container building. Spent material is pumped from the drums into a tanker truck for utilization as energy resource recovery off-site.

OTHER

Incinerator ash is no longer generated at the facility. Solid paint residuals generated during the manufacturing processes, such as paint chips and paint sediments, are placed in 55-gallon drums and eventually utilized as energy resource recovery off-site. Off-spec paint product that can not be returned to the manufacturer and small quantity waste oils are placed into 55-gallon drums temporarily stored in the drum container building and pumped from the drums into a tanker truck for utilization as energy resource recovery off-site. Other solid wastes such as packaging, pallets and office refuse are handled as municipal wastes in the appropriate manner. Wash detergent waters containing dirt and grit are filtered and directed into the fire pond. Sanitary wastes are handled through an on-site septic field.

SPRAY PAINT BOOTHS

Process Location:

Utility Body Assembly Line - 3 booths
Special Utility Body Assembly - 3 booths
Tool Box Assembly - 2 booths
Platform Assembly - 3 booths

Process Material:

Sikens Red Prime #S15/84*, (replaced "vinyl wash")
Sikens Grey Wash Prime
Sikens Harder #C25/41
Sikens 123 Reducer-Fast
Sikens 123 Reducer-Slow
Sikens 123 Reducer-Extra Slow
Sikens TR10 Reducer
Valspar Undercoat #YXR0196
Sikens Autocryl Black Top Coat
Sikens Autocryl White Top Coat
Sikens 123 Hardener
Sikens 889 Accelerator
Sikens Retarder
Valspar Prime #FXR0002 (Temporary)
Valspar Prime #AAA0422 (Temporary)
Sikens Rail Black Top coat
Sikens Flow Additive #10AHK44613

* contains zinc chromate

Process:

Except at the platform assembly, paint is pumped from a central paint kitchen with catalyst added at each individual booth. At the platform assembly, paint is mixed at individual booths. All booths are dry filter operations. Absorbent materials (paint filters and overspray paper) and paint booth dust are placed in 55-gallon drums and eventually utilized as energy resource recovery off-site.

MATERIAL SAFETY DATA SHEET

IDENTITY (As used on label and list)

BARSOL A-3367

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

BARTON SOLVENTS, INC.
1920 N.E. Broadway
P. O. Box 221
Des Moines, Iowa 50301

Emergency Telephone Number:

515 265-7998

Telephone Number for Information

515 265-7998

Date Prepared 6-30-89

Section II - Hazardous Ingredients/Identity Information

Hazardous Components	CAS NO.	ACGIH TLV, ppm	OSHA PEL (ppm)	% (optional)
*Toluene	108-88-3	100	100	70
*Methyl Isobutyl Ketone	108-10-1	50	50	10
Isopropyl Alcohol	67-63-0	400	400	>9

*This product is a toxic chemical subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372.

Calculated TLV of Mixture: 116 ppm

NFPA Hazard: Health 2

Flammability 3

Reactivity 0

TLV Registered by the ACGIH

Section III - Physical/Chemical Characteristics

Boiling Point	82 110 115 °C / 180 230 239 °F	Specific Gravity (H ₂ O=1)	0.847
Vapor Pressure (mm Hg.)	24.3	Melting Point	n/a
Vapor Density (Air = 1)	3.0	Evaporation Rate	(Butyl Acetate = 1) 1.9

Solubility in Water Moderate

Appearance and Odor Clear and Water White - Ketone Odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)	6 °C / 43 °F	TCC	Flammable Limits	LEL	UEL
				2.0	n/a

Extinguishing Media: NFPA Class B Extinguishers (CO₂ or Foam) for Class I B liquid fires.

Special Fire Fighting Procedures: Water spray may be ineffective on fire but can protect fire fighters and cool closed containers. Use fog nozzles if water is used.

Use air-supplied breathing masks. Keep runoff from entering drains and sewers.

Unusual Fire and Explosion Hazards: EXTREMELY FLAMMABLE!! Keep containers tightly closed. Closed containers may explode if exposed to extreme heat. Vapors may travel long distances to source of ignition and flash back.

Section V - Reactivity Data

Stability: Unstable

Conditions to Avoid: Isolate from oxidizers, heat, sparks, electrical equipment and open flames.

Stable XX

Incompatibility (Materials to Avoid): Isolate from strong oxidizers such as permanganate.

Hazardous Decomposition or Byproducts: Carbon Monoxide and unidentified organic compounds from burning

Hazardous : May Occur

Conditions to Avoid:

Polymerization : Will Not Occur XX

MATERIAL SAFETY DATA SHEET

IDENTITY BARSOL A-3367

Page 2

Date Prepared: 6-30-89

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	No	No

Health Hazards (Acute and Chronic): INHALING: Anesthetic. Vapors may be moderately toxic. Irritates respiratory tract. May cause serious nervous system depression. Breathing of vapor may cause irritation. SKIN & EYE: Primary irritation. Repeated skin exposure may cause dermatitis. Vapors may irritate eyes. INGESTION: Vapor harmful. Harmful or fatal if swallowed.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	No	No	No

Signs and Symptoms of Exposure: Headache, dizziness, drowsiness, nausea, unconsciousness, coma and possibly death in high concentration of vapors in confined areas.

Medical Conditions

Generally Aggravated by Exposure: Preexisting eye, skin & respiratory conditions.

Emergency and First Aid Procedures: EYES: Wash with water for 15 minutes and get medical attention. SKIN: Wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothes until cleaned. INHALATION: Remove to fresh air. INGESTION: Get medical attention! DO NOT INDUCE vomiting. If vomiting occurs, keep head below hips to prevent aspiration of liquid into lungs.

Section VII - Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled: Eliminate all sources of ignition. Contain spill so that it does not get into streams or groundwater. Absorb with absorbent or sand. Evacuate spill area of unprotected personnel. Wear appropriate protective equipment. Water fog may be used to disperse vapors if necessary.

Waste Disposal Method: Recycle or incinerate observing local, state & Federal regulations.

Precautions to be Taken in Handling and Storing: Isolate from oxidizers, heat, sparks, electric equipment and open flame.

Other Precautions: Do not flame cut, saw, braze or weld. Empty container hazardous! Continue all label precautions. Vapors may cause flash fire.

Section VIII - Control Measures

Respiratory Protection (Specify Type): Ventilate to keep air below TLV. If above TLV, use self-contained air pack.

Ventilation	Local Exhaust:	Ventilate to reduce levels of air contaminants below that which may cause personal injury or illness.	Special:	None
	Mechanical (General):	Yes	Other:	None

Protective Gloves: Yes (must not dissolve in solvents)

Eye Protection: Required. Splash proof goggles or face shield. Do not wear contact lens

Other Protective Clothing or Equipment: Clean, body-covering clothes.

Work/Hygienic Practices: Follow safe work practices. Wash hands prior to eating or smoking.

Legal responsibility is assumed only for the fact that all studies reported here & all opinions are those of qualified experts. Buyer assumes all risk & liability. He accepts & uses this material on these conditions.

**MATERIAL SAFETY DATA SHEET**EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION**VIRGIN XYLENE**PAGE: 1
DATE PREPARED: JUL 3, 1991
NO.: 92974660**SECTION 1 PRODUCT IDENTIFICATION & EMERGENCY INFORMATION****PRODUCT NAME:** VIRGIN XYLENE**CHEMICAL NAME:**

Mixed Xylenes and Ethylbenzene

CAS 1330-20-7

CHEMICAL FAMILY:

Aromatic Hydrocarbon

PRODUCT DESCRIPTION:

Aromatic odor

Clear, colorless liquid

EMERGENCY TELEPHONE NUMBERS: EXXON CHEMICAL AMERICAS
CHEMTREC713-870-6000
800-424-9300**SECTION 2 HAZARDOUS INGREDIENT INFORMATION**

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse. This product is hazardous as defined in 29 CFR 1910.1200, based on the following compositional information:

COMPONENTXylenes
EthylbenzeneOSHA HAZARDFlammable
OSHA PEL: ACGIH TLV
Eye Irritant

For additional information see Section 3.

SECTION 3 HEALTH INFORMATION & PROTECTION**NATURE OF HAZARD****EYE CONTACT:**

Irritating, but does not injure eye tissue.

SKIN CONTACT:

Frequent or prolonged contact may irritate.

Low order of toxicity.

Occasional brief contact with the liquid will not result in significant irritation unless evaporation is impeded.

Skin contact may aggravate an existing dermatitis condition.

INHALATION:

High vapor/aerosol concentrations (greater than approximately 1000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death.

Negligible hazard at ambient temperature (-18 to 38 Deg C; 0 to 100 Deg F)

INGESTION:

Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.

Low order of toxicity.



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A DIVISION OF EXXON CHEMICAL COMPANY, A DIVISION OF EXXON CORPORATION

VIRGIN XYLENE

PAGE: 2
DATE PREPARED: JUL 3, 1991
NO.: 9297-560

FIRST AID

EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water; use soap if available. Remove grossly contaminated clothing, including shoes, and launder before reuse.

INHALATION:

Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

ACUTE TOXICITY DATA IS AVAILABLE UPON REQUEST.

WORKPLACE EXPOSURE LIMITS

OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:

A TWA of 100 ppm (435 mg/m³) and a STEL of 150 ppm (655 mg/m³) for Xylenes.

A TWA of 100 ppm (435 mg/m³) and a STEL of 125 ppm (545 mg/m³) for Ethyl Benzene.

THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:

A TWA of 100 ppm (434 mg/m³), and a STEL of 150 ppm (651 mg/m³) for Xylene.

a TWA of 100 ppm (434 mg/m³), and a STEL of 125 ppm (543 mg/m³) for Ethyl Benzene.

PRECAUTIONS

SPECIAL PRECAUTIONS:

Health studies have shown that many petroleum hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

PERSONAL PROTECTION:

For open systems where contact is likely, wear safety glasses with side shields, long sleeves, and chemical resistant gloves. Where contact may occur, wear safety glasses with side shields. Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

VENTILATION:

The use of mechanical dilution ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated.

Use explosion-proof ventilation equipment.



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

VIRGIN XYLENE

PAGE: 3
DATE PREPARED: JUL 3, 1991
NO.: 92971660

SECTION 4 FIRE & EXPLOSION HAZARD

FLASHPOINT: 78 Deg F. METHOD: TCC
FLAMMABLE LIMITS: LEL: 1.0 UEL: 7.0
AUTOIGNITION TEMPERATURE: 930 Deg F. NOTE: Approximate

GENERAL HAZARD:

Flammable Liquid, can release vapors that form flammable mixtures at temperatures at or above the flashpoint.
Toxic gases will form upon combustion.
Static Discharge, material can accumulate static charges which can cause an incendiary electrical discharge.
"Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.
Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors.
Use foam or dry chemical to extinguish fire.

Respiratory and eye protection required for fire fighting personnel.
Avoid spraying water directly into storage containers due to danger of boilover.

This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

HAZARDOUS COMBUSTION PRODUCTS:

Fumes, smoke, and carbon monoxide.

SECTION 5 SPILL CONTROL PROCEDURE

LAND SPILL:

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 7) notify the National Response Center.

Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.

Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.

Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

VIRGIN XYLENE

PAGE: 4
DATE PREPARED: JUL 3, 1991
NO.: 92974360

WATER SPILL:

Remove from surface by skimming or with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 6 NOTES

HAZARD RATING SYSTEMS:

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704
HEALTH	2	2
FLAMMABILITY	3	3
REACTIVITY	0	0

KEY
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

SECTION 7 REGULATORY INFORMATION

DEPARTMENT OF TRANSPORTATION (DOT):

DOT PROPER SHIPPING NAME:

XYLENE, Flammable Liquid UN 1307

DOT HAZARD CLASS: Flammable liquid

DOT IDENTIFICATION NUMBER: UN 1307

NAME: Xylenes

TSCA:

This product is listed on the TSCA Inventory as a UVCB (Unknown, Variable Composition or Biological) Chemical at CAS Registry Number 1330-20-7

CERCLA:

If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling 800-424-8802.
The reportable spill quantity of this product is 1,000 pounds.
This product contains:
Xylene, Ethylbenzene.

SARA TITLE III:

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:

Immediate health, Delayed Health, Fire.

This product contains the following Section 313 Reportable Ingredients:

COMPONENT	CAS NO.	MAXIMUM %
Xylene	1330-20-7	83.0
Ethylbenzene	100-41-4	17.0



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

VIRGIN XYLENE

PAGE: 5
DATE PREPARED: JUL 3, 1991
NO.: 92974660

SECTION 8 TYPICAL PHYSICAL & CHEMICAL PROPERTIES

SPECIFIC GRAVITY:

0.87 at 60

SOLUBILITY IN WATER, WT. % AT °F:

Less Than 0.10 at 68

SP. GRAV. OF VAPOR, at 1 atm (Air=1):

3.66

EVAPORATION RATE, n-Bu Acetate=1:

0.8

VAPOR PRESSURE, mmHg at °F:

19 at 100 Deg F

VISCOSITY OF LIQUID, CST AT °F:

1 at 77

FREEZING/MELTING POINT, °F:

-65

BOILING POINT, °F:

280 to 284

SECTION 9 REACTIVITY DATA

STABILITY:

Stable

CONDITIONS TO AVOID INSTABILITY:

Not Applicable

HAZARDOUS POLYMERIZATION:

Will not occur

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:

Strong oxidizing agents, concentrated nitric and sulphuric acids, halogen, and molten sulphur. Temperatures above ambient.

HAZARDOUS DECOMPOSITION PRODUCTS:

None

SECTION 10 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD:

Yes, use proper grounding procedure

STORAGE TEMPERATURE, °F:

Ambient

STORAGE/TRANSPORT PRESSURE, mmHg:

Atmospheric

LOADING/UNLOADING TEMPERATURE, °F:

Ambient

VISC. AT LOADING/UNLOADING TEMP., CST:

1

REVISION SUMMARY:

Since MAY 17, 1991 this MSDS has been revised in Section(s):
1, 2, 7

REFERENCE NUMBER:

HDHA-G-25004

DATE PREPARED:

July 3, 1991

SUPERSEDES ISSUE DATE:

May 17, 1991

FOR ADDITIONAL PRODUCT INFORMATION, CONTACT YOUR TECHNICAL SALES REPRESENTATIVE
FOR ADDITIONAL HEALTH/SAFETY INFORMATION, CALL 713-870-6885

THIS INFORMATION RELATES TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, LIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF INFORMATION FOR HIS OWN PARTICULAR USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR IN THE USE OF THIS INFORMATION NOR DO WE OFFER WARRANTY AGAINST PATENT INFRINGEMENT.

EXXON
CHEMICAL**MATERIAL SAFETY DATA SHEET**EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

AROMATIC 100

PAGE: 1
DATE PREPARED: NOV 7, 1991
NO.: 92940652**SECTION 1 PRODUCT IDENTIFICATION & EMERGENCY INFORMATION**

PRODUCT NAME: AROMATIC 100

CHEMICAL NAME:
Aromatic HydrocarbonCHEMICAL FAMILY:
Petroleum HydrocarbonPRODUCT DESCRIPTION:
Clear colorless liquid.

CAS 64742-95-6

EMERGENCY TELEPHONE NUMBERS: EXXON CHEMICAL AMERICAS
CHEMTREC713-870-6000
800-424-9300**SECTION 2 HAZARDOUS INGREDIENT INFORMATION**

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse. This product is hazardous as defined in 29 CFR 1910.1200, based on the following compositional information:

COMPONENT
Hydrocarbons
Trimethylbenzene
Xylene
Cumene
Ethylbenzene

OSHA HAZARD
Combustible
OSHA PEL; ACGIH TLV
OSHA PEL; ACGIH TLV
OSHA PEL; ACGIH TLV
OSHA PEL; ACGIH TLV

For additional information see Section 3.

SECTION 3 HEALTH INFORMATION & PROTECTION**NATURE OF HAZARD****EYE CONTACT:**

Slightly irritating but does not injure eye tissue.

SKIN CONTACT:Frequent or prolonged contact may irritate and cause dermatitis.
Low order of toxicity.

Skin contact may aggravate an existing dermatitis condition.

INHALATION:

High vapor/aerosol concentrations (greater than approximately 1000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death.

INGESTION:Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.
Minimal toxicity.



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

AROMATIC 100

PAGE: 2
DATE PREPARED: NOV 7, 1991
NO.: 92940652

FIRST AID

EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water; use soap if available. Remove grossly contaminated clothing, including shoes, and launder before reuse.

INHALATION:

Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

ACUTE TOXICITY DATA IS AVAILABLE UPON REQUEST.

WORKPLACE EXPOSURE LIMITS

OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:

- A TWA of 25 ppm (126 mg/m³) for Trimethyl Benzene.
- A TWA of 100 ppm (435 mg/m³) and a STEL of 150 ppm (655 mg/m³) for Xylenes.
- A TWA of 50 ppm (245 mg/m³) for Cumene (skin).
- A TWA of 100 ppm (435 mg/m³) and a STEL of 125 ppm (545 mg/m³) for Ethyl Benzene.

THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:

- a TWA of 25 ppm (123 mg/m³) for Trimethyl Benzene.
- A TWA of 100 ppm (434 mg/m³), and a STEL of 150 ppm (654 mg/m³) for Xylene.
- a TWA of 50 ppm (246 mg/m³) for Cumene (skin).
- a TWA of 100 ppm (434 mg/m³), and a STEL of 125 ppm (543 mg/m³) for Ethyl Benzene.

EXXON RECOMMENDS THE FOLLOWING OCCUPATIONAL EXPOSURE LIMITS:
50 ppm total hydrocarbon based on composition.

PRECAUTIONS

SPECIAL PRECAUTIONS:

Health studies have shown that many petroleum hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

PERSONAL PROTECTION:

For open systems where contact is likely, wear safety glasses with side shields, long sleeves, and chemical resistant gloves. Where contact may occur, wear safety glasses with side shields. Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

**MATERIAL SAFETY DATA SHEET**

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

AROMATIC 100

PAGE: 3
DATE PREPARED: NOV 7, 1991
NO.: 92940852

VENTILATION:

The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be stored and handled in a lab hood. Provide mechanical ventilation of confined spaces. See respiratory protection recommendations.

SECTION 4 FIRE & EXPLOSION HAZARD

FLASHPOINT: 106 Deg F. **METHOD:** TCC **NOTE:** Approximately
FLAMMABLE LIMITS: LEL: 0.6 UEL: 7.0
AUTOIGNITION TEMPERATURE: 869 Deg F.

GENERAL HAZARD:

Combustible liquid, can form combustible mixtures at temperatures at or above the flashpoint.
Static Discharge, material can accumulate static charges which can cause an incendiary electrical discharge.
"Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel. Isolate "fuel" supply from fire.
Use foam, dry chemical, or water spray to extinguish fire.
Avoid spraying water directly into storage containers due to danger of rollover.
This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

HAZARDOUS COMBUSTION PRODUCTS:

No Unusual

SECTION 5 SPILL CONTROL PROCEDURE**LAND SPILL:**

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 7) notify the National Response Center.
Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.

**MATERIAL SAFETY DATA SHEET**

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A DIVISION OF EXXON CHEMICAL COMPANY, A DIVISION OF EXXON CORPORATION

AROMATIC 100

PAGE: 4
DATE PREPARED: NOV 7, 1991
NO.: 92940652

Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL:

Remove from surface by skimming or with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 6 NOTES**HAZARD RATING SYSTEMS:**

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704	KEY
HEALTH	1	1	4 = Severe
FLAMMABILITY	2	2	3 = Serious
REACTIVITY	0	0	2 = Moderate
			1 = Slight
			0 = Minimal

SECTION 7 REGULATORY INFORMATION**DEPARTMENT OF TRANSPORTATION (DOT):****DOT PROPER SHIPPING NAME:**

PETROLEUM NAPHTHA, Combustible Liquid UN 1255

DOT HAZARD CLASS: Combustible Liquid**DOT IDENTIFICATION NUMBER:** UN 1255

NAME: Naptha, petroleum

TSCA:

This product is listed on the TSCA Inventory as a UVCB (Unknown, Variable Composition or Biological) Chemical at CAS Registry Number 64742-95-6

CERCLA:

This product, as sold, is derived from a fraction of crude oil and is excluded from the spill reporting requirements by CERCLA Section 101(14)(F). When this product is used in a mixture or as an ingredient in another product or in a manufacturing operation, the petroleum exclusion terminates and an accidental spill may require reporting to the National Response Center at 800-424-8802.

This product contains approximately 7% of Xylene.

The reportable quantity of Xylene is 1,000 pounds.

This product contains approximately 5% of Cumene.

The reportable quantity of Cumene is 5,000 pounds.

This product contains approximately 1% of Ethylbenzene.

The reportable quantity of Ethylbenzene is 1,000 pounds.

**MATERIAL SAFETY DATA SHEET**EXXON CHEMICAL AMERICAS, P.O. BOX 3172, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION**AROMATIC 100**PAGE: 5
DATE PREPARED: NOV 7, 1991
NO.: 92940652**SARA TITLE III:**

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:

Delayed Health, Fire.

This product contains the following Section 313 Reportable Ingredients:

COMPONENT	CAS NO.	MAXIMUM %
1,2,4-Trimethylbenzene	85-63-6	24.0
Cumene	98-82-8	5.0
Xylene	1330-20-7	5.0
Ethylbenzene	100-41-4	1.5

SECTION 8 TYPICAL PHYSICAL & CHEMICAL PROPERTIES**SPECIFIC GRAVITY:**

0.88 at 60

Density: 7.3 lbs/gal at 59

SOLUBILITY IN WATER, WT. % AT °F:

Less Than 0.10 at 68

SP. GRAV. OF VAPOR, at 1 atm (Air=1):

4.10

EVAPORATION RATE, n-Bu Acetate=1:

0.2

VAPOR PRESSURE, mmHg at °F:

10 at 100 Approximately

VISCOSITY OF LIQUID, CST AT °F:

1 at 77

FREEZING/MELTING POINT, °F:

-63

BOILING POINT, °F:

305 to 340 Approximately

SECTION 9 REACTIVITY DATA**STABILITY:**

Stable

CONDITIONS TO AVOID INSTABILITY:

Not Applicable

HAZARDOUS POLYMERIZATION:

Will not occur

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:

Nitric acid, sulfuric acid, strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:

None

SECTION 10 STORAGE AND HANDLING**ELECTROSTATIC ACCUMULATION HAZARD:**

Yes, use proper grounding procedure

**MATERIAL SAFETY DATA SHEET**

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

AROMATIC 100

PAGE: 6
DATE PREPARED: NOV 7, 1991
NO.: 92940652

STORAGE TEMPERATURE, °F:

Ambient

STORAGE/TRANSPORT PRESSURE, mmHg:

Atmospheric

LOADING/UNLOADING TEMPERATURE, °F:

Ambient

VISC. AT LOADING/UNLOADING TEMP., cST:**REVISION SUMMARY:**

Since AUGUST 14, 1991 this MSDS has been revised in Section(s):

7

REFERENCE NUMBER:
HDNA-C-25028

DATE PREPARED:
November 7, 1991

SUPERSEDES ISSUE DATE:
August 14, 1991

FOR ADDITIONAL PRODUCT INFORMATION, CONTACT YOUR TECHNICAL SALES REPRESENTATIVE
FOR ADDITIONAL HEALTH/SAFETY INFORMATION, CALL 713-870-6885

THIS INFORMATION RELATED TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION NOR DO WE OFFER WARRANTY AGAINST PATENT INFRINGEMENT.



MATERIAL SAFETY DATA SHEET

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A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

VIRGIN XYLENE

PAGE: 5
DATE PREPARED: MAY 17, 1991
NO.: 92974660

SECTION 8 TYPICAL PHYSICAL & CHEMICAL PROPERTIES

SPECIFIC GRAVITY: 0.87 at 60	VAPOR PRESSURE, mmHg at °F: 19 at 100 Deg F
SOLUBILITY IN WATER, WT. % AT °F: Less Than 0.10 at 68	VISCOSITY OF LIQUID, CST AT °F: 1 at 77
SP. GRAV. OF VAPOR, at 1 atm (Air=1): 3.66	FREEZING/MELTING POINT, °F: -65
EVAPORATION RATE, n-Bu Acetate=1: 0.8	BOILING POINT, °F: 280 to 284

SECTION 9 REACTIVITY DATA

STABILITY: Stable	HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID INSTABILITY: Not Applicable	
MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY: Strong oxidizing agents, concentrated nitric and sulphuric acids, halogen, and molten sulphur. Temperatures above ambient.	
HAZARDOUS DECOMPOSITION PRODUCTS: None	

SECTION 10 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD: Yes, use proper grounding procedure	
STORAGE TEMPERATURE, °F: Ambient	LOADING/UNLOADING TEMPERATURE, °F: Ambient
STORAGE/TRANSPORT PRESSURE, mmHg: Atmospheric	VISC. AT LOADING/UNLOADING TEMP., CST: 1

REVISION SUMMARY:
Since MAY 11, 1991 this MSDS has been revised in Section(s):
3

REFERENCE NUMBER: HDHA-C-25004	DATE PREPARED: May 17, 1991	SUPERSEDES ISSUE DATE: May 11, 1991
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MATERIAL SAFETY DATA SHEETEXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

AROMATIC 100

PAGE: 2
DATE PREPARED: MAR 4, 1991
NO.: 92940652**FIRST AID****EYE CONTACT:**

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water; use soap if available.
Remove grossly contaminated clothing, including shoes, and launder before reuse.

INHALATION:

Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

ACUTE TOXICITY DATA IS AVAILABLE UPON REQUEST.

WORKPLACE EXPOSURE LIMITS**OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:**

- A TWA of 25 ppm (125 mg/m³) for Trimethyl Benzene.
- A TWA of 100 ppm (435 mg/m³) and a STEL of 150 ppm (655 mg/m³) for Xylenes.
- A TWA of 50 ppm (245 mg/m³) for Cumene (skin).
- A TWA of 100 ppm (435 mg/m³) and a STEL of 125 ppm (545 mg/m³) for Ethyl Benzene.

THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:

- a TWA of 25 ppm (123 mg/m³) for Trimethyl Benzene.
- A TWA of 100 ppm (434 mg/m³), and a STEL of 150 ppm (651 mg/m³) for Xylene.
- a TWA of 50 ppm (246 mg/m³) for Cumene (skin).
- a TWA of 100 ppm (434 mg/m³), and a STEL of 125 ppm (543 mg/m³) for Ethyl Benzene.

EXXON RECOMMENDS THE FOLLOWING OCCUPATIONAL EXPOSURE LIMITS:

- 50 ppm total hydrocarbon based on composition.

PRECAUTIONS**PERSONAL PROTECTION:**

For open systems where contact is likely, wear safety glasses with side shields, long sleeves, and chemical resistant gloves.
Where contact may occur, wear safety glasses with side shields.
Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

VENTILATION:

The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be stored and handled in a lab hood. Provide mechanical ventilation of confined spaces. See respiratory protection recommendations.



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

AROMATIC 100

PAGE: 3
DATE PREPARED: MAR 4, 1991
NO.: 92940652

SECTION 4 FIRE & EXPLOSION HAZARD

FLASHPOINT: 106 Deg F. METHOD: TCC NOTE: Approximately
FLAMMABLE LIMITS: LEL: 0.6 UEL: 7.0
AUTOIGNITION TEMPERATURE: 869 Deg F.

GENERAL HAZARD:

Combustible Liquid, can form combustible mixtures at temperatures at or above the flashpoint.
Static Discharge, material can accumulate static charges which can cause an incendiary electrical discharge.
"Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel.
Isolate "fuel" supply from fire.
Use foam, dry chemical, or water spray to extinguish fire.
Avoid spraying water directly into storage containers due to danger of boilover.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS:

No Unusual

SECTION 5 SPILL CONTROL PROCEDURE

LAND SPILL:

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 7) notify the National Response Center.
Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL:

Remove from surface by skimming or with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

EXXON**CHEMICAL**

MATERIAL SAFETY DATA SHEET

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A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

AROMATIC 100

PAGE: 6
DATE PREPARED: MAY 22, 1991
NO.: 92940652

STORAGE TEMPERATURE, °F:

Ambient

STORAGE/TRANSPORT PRESSURE, mmHg:

Atmospheric

LOADING/UNLOADING TEMPERATURE, °F:

Ambient

VISC. AT LOADING/UNLOADING TEMP., cST:

1

REVISION SUMMARY:

Since MAY 9, 1991 this MSDS has been revised in Section(s):

3, 4

REFERENCE NUMBER:

HDHA-C-25028

DATE PREPARED:

May 22, 1991

SUPERSEDES ISSUE DATE:

May 9, 1991

FOR ADDITIONAL PRODUCT INFORMATION, CONTACT YOUR TECHNICAL SALES REPRESENTATIVE
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LIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF
SUCH INFORMATION FOR HIS OWN PARTICULAR USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR
FROM THE USE OF THIS INFORMATION NOR DO WE OFFER WARRANTY AGAINST PATENT INFRINGEMENT.

M A T E R I A L S A F E T Y D A T A S H E E T

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product code: 16896

Page: 1

Product Name: CHLOROTHENE (R) SM SOLVENT

Effective Date: 04/17/91 Date Printed: 04/29/91

MSDS:001111

1. INGREDIENTS: (% w/w, unless otherwise noted)

1,1,1-Trichloroethane	CAS# 000071-55-6	96.5% (wt.)
Diethylene Ether (1,4-Dioxane)	CAS# 000123-91-1	2.5
1,2-Butylene oxide	CAS# 000106-88-7	0.47
Nitromethane	CAS# 000075-52-5	0.34

The hazard information presented is based on tests conducted on this or similar mixtures. Therefore, pursuant to the OSHA Hazard Communication Standard (see 29 CFR Part 1910.1200 (g) (2) (b)), the information is based on the tested mixture and not individual ingredients.

2. PHYSICAL DATA:

BOILING POINT: 165F (74C)
VAP PRESS: 100 mmHg @ 20C
VAP DENSITY: 4.55
SOL. IN WATER: 0.07 g/100g @ 25C
SP. GRAVITY: 1.321 @ 25/25C

APPEARANCE: Colorless liquid.
ODOR: Irritating odor at high concentrations.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: None
METHOD USED: TOC, TCC, COC

FLAMMABLE LIMITS
LFL: 7.5% @ 25C
UFL: 12.5% @ 25C

EXTINGUISHING MEDIA: Water fog.

FIRE & EXPLOSION HAZARDS: Vapors of this solvent may develop a flammable atmosphere in confined or poorly-ventilated areas.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure, self-contained breathing apparatus.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Avoid open flames, welding

(Continued on page 2)

(R) Indicates a Trademark of The Dow Chemical Company

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Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product code: 16896

Page: 3

Product Name: CHLOROTHENE (R) SM SOLVENT

Effective Date: 04/17/91 Date Printed: 04/29/91

MSDS:001111

6. HEALTH HAZARD DATA: (CONTINUED)

irritation. Repeated contact may cause drying or flaking of skin.

SKIN ABSORPTION: A single prolonged skin exposure is not likely to result in absorption of harmful amounts. The LD50 for rabbits is about 15,000 mg/kg.

INGESTION: Single dose oral toxicity is low. The LD50 for rats is >10,000 mg/kg. If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

INHALATION: Minimal anesthetic or narcotic effects may be seen in the range of 500-1000 ppm trichloroethane. Progressively higher levels over 1000 ppm may cause dizziness, drunkenness; concentrations as low as 10,000 ppm can cause unconsciousness and death. These high levels may also cause cardiac arrhythmias (irregular heartbeats). In confined or poorly ventilated areas, vapors which readily accumulate can cause unconsciousness and death.

SYSTEMIC & OTHER EFFECTS: Based on available data, repeated exposure is not anticipated to cause any significant adverse

M A T E R I A L S A F E T Y D A T A S H E E T

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 16896

Page: 9

Product Name: CHLOROTHENE (R) SM SOLVENT

Effective Date: 01/24/91 Date Printed: 01/28/91

MSDS:001111

REGULATORY INFORMATION (CONTINUED)

The Workplace Hazardous Materials Information System (W.H.M.I.S.)
Classification for this product is:

D1B

D2B

The Transportation of Dangerous Goods Act (T.D.G.A.) classification for
this product is:

1,1,1-Trichloroethane/Class 6.1/UN2831/111

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For Further Information.

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MATERIAL SAFETY DATA SHEET

DATE PRINTED: 7/12/90

IPL # 10001

TO: S 10011

SECTION I

MANUFACTURERS NAME:
AKZO COATINGS AMERICA INC.

REET ADDRESS:
1845 MAXWELL
TROY, MI 48064

EMERGENCY TELEPHONE NUMBERS:
8:00AM-4:45PM (313) 637-0400
AFTER HOURS (313) 855-7313

PRODUCT CLASS:
SOLVENT SOLUTION

MANUFACTURERS CODE IDENTIFICATION:
10AHY44043

TRADE NAME:
SPECIAL CLEANING SOLVENT

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS:

ETHYL ETHYL KETONE
MEK

C.A.S. NO.	* PCT *	* TLV-TWA *	* PEL-TWA *	* VAPOR *
	* BY WT *	PPM	MG/M3	PPM
				MG/M3
78-93-3	* 95 *	* 200.00	590.00*	200.00
	* *			590.00*
				70.0

SECTION III - PHYSICAL DATA

BOILING RANGE:
175 - 178 DEG. F

VAPOR DENSITY VS. AIR:
HEAVIER THAN AIR

EVAPORATION RATE VS. ETHER:
SLOWER

PERCENT VOLATILE BY VOLUME:
100.0

WEIGHT PER GALLON:
6.71 LBS.

MATERIAL SAFETY DATA SHEET

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

HAZARD CATEGORY:

PAINT RELATED MATERIAL.

FLAMMABLE LIQUID. NA-1263

FLASH POINT:

16F SFCC

LEL: 1.4

HAZARD CLASSIFICATION:

FLAMMABLE LIQUID - CLASS IB

EXTINGUISHING MEDIA:

FOAM. CARBON DIOXIDE. DRY CHEMICALS

USUAL FIRE AND EXPLOSION HAZARDS:

KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT. SPARKS. ELECTRICAL EQUIPMENT AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT. APPLICATION TO HOT SURFACES REQUIRES SPECIAL PRECAUTIONS. DURING EMERGENCY CONDITIONS OVER EXPOSURE TO DECOMPOSITION PRODUCTS MAY CAUSE A HEALTH HAZARD. SYMPTOMS MAY NOT BE IMMEDIATELY APPARENT. OBTAIN MEDICAL ATTENTION.

SPECIAL FIRE FIGHTING PROCEDURES:

WATER MAY BE INEFFECTIVE. WATER SHOULD BE USED TO COOL CONTAINERS EXPOSED TO FIRE. FIRE FIGHTING PERSONNEL SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS.

SECTION V - REACTIVITY DATA

STABILITY:

STABLE

COMPATIBILITY (MATERIALS TO AVOID):

NONE REASONABLY FORESEEABLE.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE. CARBON DIOXIDE. SMOKE. OXIDES OF NITROGEN.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE

MATERIAL SAFETY DATA SHEET

SECTION VI - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: SEE SECTION II.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: MOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NECESSARY.

SKIN CONTACT: WASH WITH SOAP & WATER.

EYE CONTACT: FLUSH WITH WATER FOR AT LEAST 15 MINUTES. CONSULT A PHYSICIAN.

INGESTION: DRINK ONE OR TWO GLASSES OF WATER TO DILUTE. DO NOT INDUCE VOMITING.

CONSULT PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY.

MEDICAL CONDITIONS PRONE TO AGGRAVATION: NONE EXPECTED

THE FOLLOWING HAZARDS HAVE BEEN REPORTED TO BE ASSOCIATED WITH THE INDIVIDUAL COMPONENTS OF THIS PRODUCT. THESE HAZARDS MAY NOT ALL BE ASSOCIATED WITH THE FINISHED PRODUCT.

NOTE:

EYE IRRITANT. CONTACT MAY CAUSE EYE BURNS OR CORNEAL INJURY.

EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION:

DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE, POSSIBLE UNCONSCIOUSNESS,
AND EVEN ASPHYXIATION.

PROLONGED CONTACT WITH THE SKIN MAY LEAD TO EXTRACTION OF NATURAL OILS WITH
RESULTANT MILD IRRITATION.

IF SWALLOWED, CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND
DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS
WHICH CAN BE FATAL.

ADVICE: INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL
OR FATAL. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS
WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

MATERIAL SAFETY DATA SHEET

SECTION VII - SPILL OR LEAK PROCEDURES

EPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
REFER TO PROTECTIVE MEASURES LISTED IN SECTIONS IV., V., VI., VIII. AND IX.
REMOVE ALL SOURCES OF IGNITION. AVOID BREATHING VAPORS. VENTILATE AREA. REMOVE
WITH INERT ABSORBENT.

STE DISPOSAL METHOD:

INCINERATE IN AN APPROVED FACILITY. DO NOT INCINERATE CLOSED CONTAINERS. DISPOSE
OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL POLLUTION CONTROL REQUIREMENTS.

SECTION VIII - SAFE HANDLING & USE INFORMATION

PIRATORY PROTECTION:

ADEQUATE VENTILATION IS REQUIRED. USE NIOSH/MSHA APPROVED RESPIRATOR DEVICE.
SEE YOUR SAFETY EQUIPMENT SUPPLIER FOR EVALUATION AND RECOMMENDATION.
IN CONFINED AREAS USE NIOSH/MSHA APPROVED AIRLINE RESPIRATOR OR HOOD.

UTILATION:

PROVIDE SUFFICIENT VENTILATION TO KEEP VAPOR CONCENTRATION BELOW THE GIVEN TLV
AND LEL. FOR BAKING FINISHES. EXHAUST VAPORS EMITTED ON HEATING. REMOVE
DECOMPOSITION PRODUCTS FORMED DURING WELDING OR FLAME CUTTING OF SURFACES COATED
WITH THIS PRODUCT.

TECTIVE GLOVES:

REQUIRED FOR PROLONGED OR REPEATED CONTACT. REFER TO SAFETY EQUIPMENT SUPPLIER
FOR EFFECTIVE GLOVE RECOMMENDATIONS.

E PROTECTION:

USE SAFETY EYEWEAR DESIGNED TO PROTECT AGAINST SPLASH OF LIQUIDS.

HER PROTECTIVE EQUIPMENT:

EYE BATH AND SHOWER SHOULD BE AVAILABLE. USE CHEMICAL RESISTANT APRON, BOOTS OR
OTHER CLOTHING IF NEEDED TO AVOID REPEATED OR FREQUENT SKIN CONTACT. LIQUID MAY
PENETRATE SHOES AND LEATHER CAUSING DELAYED IRRITATION.

NIENIC PRACTICES:

WASH HANDS BEFORE EATING, SMOKING OR USING WASHROOM

SECTION IX - SPECIAL PRECAUTIONS

CAUTIONS TO BE TAKEN IN HANDLING AND STORING:

STORE CONTAINERS OUT OF SUN AND AWAY FROM HEAT, SPARKS AND OPEN FLAMES. CLOSE
CONTAINERS AFTER EACH USE. CONSULT N.F.P.A. CODE FOR ADDITIONAL STORAGE
REQUIREMENTS.

HER PRECAUTIONS:

DO NOT TAKE INTERNALLY. USE APPROVED BONDING AND GROUNDING PROCEDURES. OBSERVE
LABEL PRECAUTIONS. KEEP CLOSURES TIGHT AND CONTAINER UPRIGHT TO PREVENT
LEAKAGE. NEVER USE PRESSURE TO EMPTY - DRUM IS NOT A PRESSURE VESSEL. AVOID
BREATHING SANDING DUST. DO NOT WELD OR FLAME CUT AN EMPTY DRUM. DO NOT HANDLE
UNTIL THE MANUFACTURER'S SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD.

PROVED BY RAW MATERIAL & FORMULA INFORMATION DEPARTMENT

TE: 7/12/90

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TO THE BEST KNOWLEDGE OF AKZO COATINGS AMERICA. THE DATA ON THIS SHEET APPLIES ONLY TO THE
SPECIFIC MATERIAL DESIGNATED HEREIN. AKZO COATINGS AMERICA ASSUMES NO LEGAL RESPONSIBILITY FOR
USE OR RELIANCE UPON THIS DATA.

SECTION 313 SUPPLIER NOTIFICATION

THIS PRODUCT. 10AHY44043 . CONTAINS THE FOLLOWING TOXIC CHEMICALS
SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE SUPERFUND
AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 AND 40 CFR PART 372.

CAS #	CHEMICAL NAME	% BY WEIGHT
78-93-3	METHYL ETHYL KETONE	100.1

THIS INFORMATION MUST REMAIN ATTACHED TO THE PRODUCT MSDS AND MUST BE
INCLUDED AND DISTRIBUTED WITH ANY COPY OF THE MSDS.

TECHNICAL DATA

TENTATIVE DATA SHEET

Customer: Knapheide
Product Number: YXR019G
Product Description: RED TRAILER UNDERBODY COATING

MATERIAL SPECIFICATIONS AS SUPPLIED

Resin Type: MODIFIED SULFONATE
Weight Per Gallon: 9.2 +/- .1 LBS
Viscosity: 3-8,000 cps (RVT BROOKFIELD 10 RPM #3 SPINDLE)
Solids by Weight: 64.5 +/- 2
Solids by Volume: 49

APPLICATION RECOMMENDATIONS

Substrate: BARE STEEL
Reduction: NONE
Application: AIRLESS SPRAY
Application Viscosity: 3-8,000 cps
Cure Schedule: AIR DRY
Clean-up Solvent: ALIPHATICS, AROMATICS OR KETONES

CURED FILM SPECIFICATIONS

Film Thickness: 5-6 mils minimum, 10 mils maximum
Gloss: NA
Hardness: NA
Flexibility: EXCELLENT
Impact: PASS GRAVELOMETER TEST: -20 F

COMMENTS

- 1) EXCELLENT SCRIBED AND UNSCRIBED SALT SPRAY
- 2) MAXIMUM VOC 3.5
- 3) SOLVENT: STRICTLY RULE 66 MINERAL SPIRITS



The Valspar Corporation

2500 8th Avenue
East Moline, Illinois 61244
(309) 752-1450

PROPERTIES OF ALL VAL-FLEX COATINGS

See specific data sheets for physical values of your color

1. VOC: Maximum 3.5
2. Viscosity: 3-8,000 Cps, lower than other compliant coatings!
3. Gravelometer: Will pass on bare steel at -20°F and 70 psi air pressure.
4. Resists undercutting corrosion.
5. Salt Spray: Easily passes 1,000 hours salt spray (ASTM B-117) on untreated metal at 3-5 mils DFT.
6. Product meets Rule 66.
7. Flash Point: 105°F
8. Excellent adhesion to marginal surfaces.
9. Thixotropic making one coat high film builds possible.
10. Excellent early moisture resistance.
11. Cure: Flexible tack free surface upon evaporation of solvent.
12. Military: Val-Flex will pass Mil C 62218A Type I, new vehicle rust proofing specifications.
13. Cyclic Corrosion Testing: Val-Flex passes Cyclic Corrosion Testing as relied on by automobile manufacturers.
14. Material is supplied ready to use. If further dilution is desired aliphatic or aromatic solvents are compatible. Alcohols should not be used.
15. Clean-up: Aliphatic, aromatic or ketone solvents.
16. Removal: Any over spray can easily be removed with mineral spirits preventing harm to any coatings underneath.
17. Application: Airless spray is preferable but air assisted airless and other methods are useable.
18. Customer Service: Valspar's excellent application engineers and chemists stand ready to assist in any way possible.



The Valspar Corporation

2500 8th Avenue
East Moline, Illinois 61244
(309) 752-1450

Val-Flex

Valspar's Corrosion Preventative Coatings

Val-Flex utilizes field proven modified calcium sulfonate technology in conjunction with other new corrosion inhibitors to deliver a superior coating for the protection of steel surfaces everywhere.

Val-Flex's technology works by both corrosion inhibition through pH control at the metal surface and by hydrophobic barriers. This technology resists chipping and corrosion undercutting typical of many coatings.

Val-Flex cures through solvent evaporation to yield a flexible tack free surface that will stay flexible and chip resistant.

Val-Flex has been specifically formulated to be a high solids compliant coating at much lower viscosities (3-8,000 cps) than previously possible. This allows for easier application under all conditions.

Val-Flex is thixotropic so that even with a lower viscosity, high build, sag free, one coat films are no problem.

Val-Flex can be custom colored in most of the colors of the rainbow... your choice!

Val-Flex is tolerant of marginally prepared surfaces although for best performance a clean dry surface is recommended.

VAL-FLEX

UNDERSTRUCTURE CORROSION PREVENTION COATING

<u>Name</u>	<u>Product #</u>	<u>V.O.C. Lbs/Gal</u>
VAL-FLEX Red Understructure Corrosion Preventive Coating	YXR0196	3.5
VAL-FLEX Black Understructure Corrosion Preventive Coating	YXA0051	3.5
VAL-FLEX Aluminum Understructure Corrosion Preventive Coating	YXN0008	3.5